CLAIMS

What is claimed is

1. A method for decoding code-excited linear prediction signals, comprising:

(a) forming an excitation for an erased interval of encoded code-excited linear prediction signals by a weighted sum of (i) an adaptive codebook contribution and (ii) a fixed codebook contribution, wherein said adaptive codebook contribution derives from an excitation and pitch and first gain of one or more intervals prior to said erased interval and said fixed codebook contribution derives from a second gain of at least one of said prior intervals;

(b) wherein said weighted sum has sets of weights depending upon a periodicity classification of at least one prior interval of encoded signals, said periodicity classification with at least three classes; and

(c) filtering said excitation.

2. The method of claim 1, wherein:

(a) said filtering includes a synthesis with synthesis filter coefficients derived from filter coefficients of said intervals prior in time.

3. A method for decoding code-excited linear prediction signals, comprising:

(a) forming a reconstruction for an erased interval of encoded code-excited linear prediction signals by use parameters of one or more intervals prior to said erased interval;

(b) preliminarily decoding a second interval subsequent to said erased interval;

(c) combining the results of step (b) with said parameters of step (a) to form a reestimation of parameters for said erased interval; and

(d)   using the results of step (c) as part of an excitation for said second interval.

4.   The method of claim 3, further comprising:
(a)   said step (c) of claim 3 includes smoothing a gain.

5.   A decoder for CELP encoded signals, comprising:
(a)   a fixed codebook vector decoder;
(b)   a fixed codebook gain decoder;
(c)   an adaptive codebook gain decoder;
(d)   an adaptive codebook pitch delay decoder;
(e)   an excitation generator coupled to said decoders; and
(f)   a synthesis filter;
(g)   wherein when a received frame is erased, said decoders generate substitute outputs, said excitation generator generates a substitute excitation, said synthesis filter generates substitute filter coefficients, and said excitation generator uses a weighted sum of (i) an adaptive codebook contribution and (ii) a fixed codebook contribution with said weighted sum uses sets of weights depending upon a periodicity classification of at least one prior frame, said periodicity classification with at least three classes;

6.   A decoder for CELP encoded signals, comprising:
(a)   a fixed codebook vector decoder;
(b)   a fixed codebook gain decoder;
(c)   an adaptive codebook gain decoder;
(d)   an adaptive codebook pitch delay decoder;
(e)   an excitation generator coupled to said decoders; and
(f)   a synthesis filter;
(g)   wherein when a received frame is erased, said decoders generate substitute outputs, said excitation generator generates a substitute excitation, said synthesis filter generates substitute filter coefficients, and when a

second frame is received after said erased frame, said excitation generator combines parameters of said second frame with said substitute outputs to reestimate said substitute outputs to form an excitation for said second frame.